

Appendix C

Preliminary Financial Analysis – Structured Parking

This analysis addresses the financial feasibility of providing structured parking for tour buses in a centrally-located section of downtown Washington, D.C. near primary tour group destinations. The analysis compares estimated costs of structured parking spaces to the annual revenues that could be expected, assuming a reasonable range of demand.

Costs

Capital costs consist of expenses for construction, land, and financing and are annualized over a 20-year period.

The factors applied in the analysis are as follows:

Construction (superstructure, electrical, mechanical, plumbing, engineering, contingencies, etc):

- above-ground structure: \$26,000 per space
- below-ground structure: \$53,000 per space

Land purchase:

- \$35 – \$50 per square foot

Debt service:

- 3% per year over 20 years

Spaces (including aisles) are 770 square feet.

Estimated **annual operating costs** (see references) are \$640 for above-ground spaces and \$1830 for below-ground spaces.

Revenues:

Several of the bus operators interviewed for the study estimated that on a peak day in the spring, 1,000 tour buses serve the District. The peak season was estimated to last from March 15th through June 15th. A secondary peak was identified in the fall, from September 15th – November 15th, summer volumes were estimated to be somewhat lower, and winter volumes were estimated to be 50-60% of peak spring volumes. With daily parking fees of \$20 that would allow buses multiple ins and outs, total average annual

revenue *per space*, for a 1,000-space supply, assuming the peak season tour bus volumes and seasonal distribution estimated by interview respondents, is estimated be \$5,300.²³

There is no hard data to corroborate the bus volume estimates reported in the interviews, however, and a conservative assumption would be that they represent upper bound estimates of actual bus volumes. If, in actuality, a total of 400 tour buses are in the District on a peak spring day, with a proportional distribution of buses by season, total average annual revenues per each of 400 spaces supplied would remain the same, at \$5,300. If 400 spaces are supplied, but demand is considerably higher, with peak season average daily volumes of 800 buses, average annual revenue per space is estimated to be \$10,550.

Average costs and revenues per space are compared below for several scenarios in which land costs per square foot, type of structure (above- or below-ground), and tour bus demand and supply volumes are varied.

Estimated Costs and Revenues Per Structured Bus Parking Space	
Capital Cost (including land at \$35/sq.ft.)- above ground–3-level structure	\$3,760
Capital Cost (including land at \$50/sq.ft.) - above ground–3-level structure	\$5,370
Capital Cost (including land at \$50/sq.fot) – below ground –1 level	\$9,560
Revenue (1,000 buses per day in peak season—1,000 spaces provided)	\$5,270
Revenue (400 buses per day in peak season—400 spaces provided)	\$5,270
Revenue (800 buses per day in peak season—400 spaces provided)	\$10,550
Net Revenue (land at \$35/sq. ft.) –above-ground structure—1,000 spaces	\$870
Net Revenue (land at \$50/sq. ft.) – above-ground structure – 1,000 spaces	(\$740)
Net Revenue (land at \$50/sq. ft.)-below-ground structure-1,000 spaces	(\$6,110)
Net Revenue (land at \$50/sq.ft.) – above-ground structure – 400 spaces (peak demand – 800 buses/day)	\$4,530
Net Revenue (land at \$50/sq.ft.) –above-ground structure – 400 spaces (peak demand – 400 buses/day)	(\$740)
Net Revenue (land at \$50/sq.ft.) – below-ground structure –400 spaces (peak demand – 800 buses/day)	(\$840)

The table shows that positive net revenues could be obtained under a few scenarios, specifically if land costs are \$35 per square foot (or lower) rather than \$50 per square foot and if only 400 spaces are supplied at \$50 per square foot—in an above-ground structure--while peak season daily demand is about 800 spaces per day, such that the 400 spaces are fully-utilized year-round.

There are several conservative assumptions incorporated in the analysis:

- X The spaces will not be used by other vehicles when not occupied by tour buses.
- X No innovative financing will be applied.

²³ Peak season (spring) daily volumes are assumed to be either 1,000, 800, or 400 buses, as noted. Fall , summer, and winter volumes are calculated as 80%, 70%, and 50% of spring daily volumes. Total of 362 parking days per year assumed.

X Costs are not shared by other uses, e.g. commercial or office development.

A necessary condition is that regulations prohibiting illegal parking by tour buses are strictly enforced, providing a strong incentive for tour buses to use the parking facilities intended for them and pay the required fee, assumed to be \$20 per day, allowing multiple ins and outs.

Conclusions

In summary, this preliminary feasibility analysis suggests that providing a *conservative supply* of structured parking spaces in one or more central locations within the District may be a financially viable option. While tour bus industry representatives interviewed for this study have estimated that there is a total of 1,000 buses per day in the District during the peak season, a prudent approach would be to provide a considerably smaller number of structured parking spaces initially and to expand the supply of structured spaces *incrementally* if justified by high occupancy rates. As discussed in the draft *Solutions Matrix and Site Analysis* memorandum, providing surface parking in areas at the periphery of the District also should be considered to address a substantial share of the demand for tour bus parking spaces. The feasibility analysis presented herein suggests that structured parking located downtown may also be a financially viable component of a comprehensive tour bus management strategy.

References:

RS Means. 1999. *Building Construction Cost Data 2000: 58th Edition*. Robert S. Means Co.

Eno Foundation for Transportation, Inc. *Parking Garage Planning and Operation*